

Claims

We claim:

1. A conveyor belt module for use in a modular conveying assembly, said module comprising:
 - a first hinge member extending forwardly in the direction of conveyor travel and including a first opening defining a first space extending along an axis transverse to the direction of conveyor travel for receiving a first hinge pin;
 - a second hinge member extending in a direction opposite to the first hinge member and including a second opening defining a second space extending along an axis transverse to the direction of conveyor travel for receiving a second hinge pin; and
 - a stub extending from said first hinge member transverse to the direction of conveyor travel, and surrounding at least a portion of said first space for rotatably mounting a roller thereon for rotation around said first space.
2. The conveyor belt module as in claim 1, in which a roller is rotatably mounted on said stub for rotation around said first space.
3. The conveyor belt module as in claim 2, in which said roller extends above the module.
4. The conveyor belt module as in claim 2, in which said roller extends below the module.

5. The conveyor belt module as in claim 1, in which said conveyor module includes a top surface defined by a leading edge and a trailing edge joined by side edges, and said first hinge members extends forwardly from said leading edge, and said second hinge member extends rearwardly from said trailing edge.

6. The conveyor belt module as in claim 5, in which said top surface includes a notch for a portion of the roller extending therethrough above said top surface.

7. The conveyor belt module as in claim 1, in which said stub extends in a first transverse direction from said first hinge member, and second stub extends in a second transverse direction from said second hinge member, and said first transverse direction is opposite of said second transverse direction.

8. The conveyor belt module as in claim 1, in which said conveyor module includes at least one other first hinge member and at least one other second hinge member, said first other hinge member extending forwardly in the direction of conveyor travel and including an opening coaxial with said first opening and defining said first space extending along an axis transverse to the direction of conveyor travel for receiving the first hinge pin, and said second other hinge member extending forwardly in the direction of conveyor travel and including an opening coaxial with said second opening and defining said second space extending along an axis transverse to the direction of conveyor travel for receiving the second hinge pin.

9. The conveyor belt module as in claim 1, in which said stub includes a proximal end fixed to said first hinge member and a distal end, and a lip extending radially from said stub around at least a portion of said stub proximal said distal end prevents the roller from slipping axially off of said stub.

10. The conveyor belt module as in claim 1, in which said first space defines a transverse axis which is coaxial with a hinge pin received in the space, and said roller rotates about an axis of rotation offset from said transverse axis.

11. The conveyor belt module as in claim 10, in which said conveyor module includes a top surface defined by a leading edge and a trailing edge joined by side edges, and said first hinge members extends forwardly from said leading edge, and said second hinge member extends rearwardly from said trailing edge, and said axis of rotation is offset towards said top surface.

12. The conveyor belt module as in claim 10, in which said conveyor module includes a top surface defined by a leading edge and a trailing edge joined by side edges, and said first hinge members extends forwardly from said leading edge, and said second hinge member extends rearwardly from said trailing edge, and said axis of rotation is offset away from said top surface.

13. A modular conveying assembly comprising:

a first conveyor module having a first hinge member extending in a direction of conveyor travel, said first hinge member including a first opening, a second hinge member extending in a direction opposite to the first hinge member and including a second opening, and a stub extending from said first hinge member transverse to the direction of conveyor travel;

a second conveyor module having a first hinge member extending in a direction of conveyor travel, said first hinge member including a first opening, a second hinge member extending in a direction opposite to the first hinge member and including a second opening, wherein said first opening of said first conveyor module is substantially aligned with said second opening of said second conveyor module, and said stub extending from said first hinge member of said first conveyor module extends toward said second hinge member of said second conveyor module; and

a hinge pin extending through said first opening of said first conveyor module and said second opening of said second conveyor module, and said stub wrapping around at least a portion of said hinge pin.

14. The modular conveying assembly as in claim 13, in which a roller is rotatably mounted on said stub for rotation around said hinge pin.

15. The modular conveying assembly as in claim 14, in which said roller extends above the module.

16. The modular conveying assembly as in claim 14, in which said roller extends below the module.

17. The modular conveying assembly as in claim 13, in which said first conveyor module includes a top surface defined by a leading edge and a trailing edge joined by side edges, and said first hinge members extends forwardly from said leading edge, and said second hinge member extends rearwardly from said trailing edge.

18. The modular conveying assembly as in claim 17, in which said top surface includes a notch for a portion of the roller extending therethrough above said top surface.

19. The modular conveying assembly as in claim 13, in which said stub extends in a first transverse direction from said first hinge member, and a second stub extends in a second transverse direction from said second hinge member, and said first transverse direction is opposite of said second transverse direction.

20. The modular conveying assembly as in claim 13, in which said first conveyor module includes at least one other first hinge member and at least one other second hinge member, said first other hinge member extending forwardly in the direction of conveyor travel and including an opening coaxial with said first opening, and said second other hinge member extending forwardly in the direction of conveyor travel and including an opening coaxial with said second opening.

21. The modular conveying assembly as in claim 13, in which said stub includes a proximal end fixed to said first hinge member and a distal end, and a lip extending radially from said stub around at least a portion of said stub proximal said distal end prevents the roller from slipping axially off of said stub.

22. The modular conveying assembly as in claim 13, in which said hinge pin defines a transverse axis, and said roller rotates about an axis of rotation offset from said transverse axis.

23. The modular conveying assembly as in claim 13, in which said conveyor module includes a top surface defined by a leading edge and a trailing edge joined by side edges, and said first hinge members extends forwardly from said leading edge, and said second hinge member extends rearwardly from said trailing edge, and said axis of rotation is offset towards said top surface.